

methylisoleucine (N-Melle), phenylglycine (Phg) and cyclohexylalanine (Cha), norleucine (Nle), cysteic acid (Cya) 2-naphthylalanine (2-Nal); 1,2,3,4-tetrahydroisoquinoline-3-carboxylic acid (Tic); beta-2-thienylalanine (Thi); and methionine sulfoxide (MSO). Preferably, peptides of the invention are 60%, 70%, 80% or more preferably, 90% identical to the V3 region of the HIV envelope protein of Table 3 (SEQ ID NO:1). Accordingly, V3 peptides of the invention comprise about 13 amino acids but may be 14, 15, 17, 20, 25, 30, 35, 36, 39, 40, 45, 50 or more amino acids in length. In one embodiment, a V3 peptide of 13 amino acids in length consists of the sequence PMGPGRAFYTTGQ (amino acids 313-325 of Table 3 (SEQ ID NO:1).

Please replace Table 5 on page 36 with the following table:

Comparison of V3 Region Amino Acid Sequences of Clone R2 with Phenetic Subgroup Consensus Sequences 1 Through 13 and Clade A Through E Consensus Sequences\*

| Clone, Subgroup or Clade    | V3 Region Amino Acid Sequence                             |
|-----------------------------|---|
| R2                          | NNTR.KSIPMGPGRAFYTTGQIIGDIROAH                            |
| PHENETIC 1 (SEQ ID NO: 6)   | - - - .H I - - - D - - -                                  |
| PHENETIC 2 (SEQ ID NO: 7)   | - - - .S I - - - A - E - - -                              |
| PHENETIC 3 (SEQ ID NO: 8)   | - - - .S I - - - A - K - - -                              |
| PHENETIC 4 (SEQ ID NO: 9)   | - - - .R I - - Q - A - D - - -                            |
| PHENETIC 5 (SEQ ID NO: 10)  | - - - .H I - - - A - K - - -                              |
| PHENETIC 6 (SEQ ID NO: 11)  | K - R R R - H . I - - - K - - -                           |
| PHENETIC 7 (SEQ ID NO: 12)  | - - - T - T I - - Q V - R - K - - -                       |
| PHENETIC 8 (SEQ ID NO: 13)  | K K M - T - A R I - - V - H K - K - - S - T K - Y - - -   |
| PHENETIC 9 (SEQ ID NO: 14)  | - - - Q - T H I - - Q - L - - D - - K - - -               |
| PHENETIC 10 (SEQ ID NO: 15) | - - - Q G T H I - - - Y - - N - - -                       |
| PHENETIC 11 (SEQ ID NO: 16) | - - - Q R T S I - Q - Q A L - - E - R - - - A - - -       |
| PHENETIC 12 (SEQ ID NO: 17) | D - I K I Q R T - I - Q - Q - L - - R I T G Y I . G - - - |
| PHENETIC 13 (SEQ ID NO: 18) | Q - K - Q G T - I - L - Q - L - - R - K - - - K - - -     |
| CLADE A (SEQ ID NO: 19)     | - - - V H I - - Q - - A - D - - -                         |
| CLADE B (SEQ ID NO: 20)     | - - - H I - - - E - - -                                   |
| CLADE C (SEQ ID NO: 21)     | - - - R I - - Q T - Y A - D - - -                         |
| CLADE D (SEQ ID NO: 22)     | - - - Q R T H I - - Q - L - - R - - -                     |
| CLADE E (SEQ ID NO: 23)     | - - - T - T I - - Q V - R - D - - - K - Y - - -           |

Please delete the Sequence Listing filed on May 29, 2001 and insert the Substitute Sequence Listing attached herewith.